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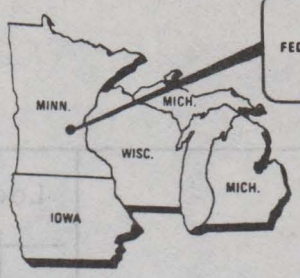

Northeastern Area
State & Private Forestry
DIVISION OF FOREST PEST CONTROL

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JACK-PINE BUDWORM EGG SURVEY ON THE HIAWATHA NATIONAL FOREST - 1969

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INTRODUCTION

The last outbreak of jack-pine budworm, Choristoneura pinus pinus Free., began in 1965 on the East Unit. The outbreak area expanded and eventually moved also to the West Unit. Since the peak of the outbreak in 1967, when defoliation was present in most jack pine areas, the intensity and the extent of defoliation has decreased.

METHODS

Nine permanent plots are systematically scattered throughout the jack-pine type of the Forest. Each plot is a jack pine stand at least 5 acres in size. Each sample consists of 4, 36 inch long branches (2 from mid-crown and 2 from lower-crown) taken from each of 10 dominant/co-dominant trees located in a cluster. The number of tips (current shoots) and the number of egg-masses and the degree of their parasitization was determined by a crew at Toumey Nursery. The average number of eggs per 100 tips was calculated with the assumption that an average egg-mass has 50 eggs. The egg numbers of parasitized egg-masses were reduced in proportion to the parasitization. Populations of more than 50 eggs per 100 tips are considered capable of causing severe damage, provided all budworms survive until pupation.

RESULTS

Egg populations have declined on all the sample plots (Table 1). Only 2 plots (101 and 105) have sufficiently high egg populations considered capable of resulting in heavy defoliation. However, since both of the plots show nearly 10 fold decrease from previous year, continued decline is expected. Heavy defoliation is not anticipated anywhere on the Forest.

Table 1. Results of 1969 egg survey and population trends since 1967.

Plot No.	Location			Number of eggs per 100 tips		
	T	R	S	1967	1968	1969
West Unit						
101	41	21	2	102	957	98
102	42	20	11	127	178	14
103	43	18	10	737	341	8
104	43	17	1	274	890	36
105	45	19	16	508	334	49
112	43	18	10	---	168	20
113	43	18	16	---	292	10
121	45	19	12	---	403	7
East Unit						
106	41	5	14	5	6	0
107	42	5	18	224	36	11
108	44	6	11	263	31	0
109	45	5	27	732	76	2
110	46	4	8	815	86	4
111	46	3	6	404	17	0
122	46	3	8	---	45	1